Mirai Solutions

Training

Expand your skillset with engaging teachers and courses

Our offer

> Focus on **key competences** for business and career development.
> Customised courses for both **individuals** and **companies**.
> **Professional** trainers with years of practical experience.
> Material suited to **different audiences**.

Public Courses

Based on current state of the art, we organize on-demand public courses for various technologies.

Private Courses

We deliver tailored courses by customizing content and use cases to your needs.

Introduction to R Language

Course description

Learn the fundamentals of the R language and obtain a solid basis for further applied R education.

We teach how to process and visualize data, while becoming familiar with the popular interface "RStudio".

PREREQUISITE
None

RECOMMENDED
Basic knowledge of programming

> Work with RStudio IDE
> CRAN packages & online resources
> Understand R data structures
> Use functions & operators
> Import & manipulate data with base R
> Learn R graphics

Introduction to Data Analytics with R

Course description

Acquire the fundamental tools to read, manipulate, clean, analyze and visualize datasets.

This course teaches the intuitive and easy-to-learn syntax of the „tidyverse" framework, popular among data scientists.

PREREQUISITE
None

RECOMMENDED
No programming experience required

TECHNOLOGY
R

LEVEL
BEGINNER

DURATION
1 DAY

> Work with RStudio IDE
> Overview of tidyverse packages
> Import & manipulate data with tidyverse
> Introduction to data analysis
> Categorize data and explore them by group
> Introduction to graphics with ggplot2

R for Data Scientists

Course description

Deep-dive into elegant data manipulation approaches, statistical analysis and visualization.

See examples of functional coding-style and learn how to generate both interactive and hard-copy (pdf) reports using markdown.

PREREQUISITE
Introduction to data analytics with R

RECOMMENDED
Introduction to R language

TECHNOLOGY
R

LEVEL
INTERMEDIATE

DURATION
1 DAY

> Learn with a case study
> Advanced data manipulation & analysis with tidyverse
> Advanced graphics with ggplot2
> Statistical models in R
> Create a report with rmarkdown and basic shiny

Programming in R

Course description

Learn about tools and the best practices that can help you organize, share and maintain your R code.

We will practice writing functions, see how to debug them and create an R package - including documentation and unit tests.

PREREQUISITE
Introduction to R language

RECOMMENDED
Introduction to data analytics with R

TECHNOLOGY
R

LEVEL
INTERMEDIATE

DURATION
2 DAYS

> Master functions
> Debugging tools and tricks
> Get coding best practices from experts
> Create packages & manage dependencies
> Document code using roxygen2
> Introduction to testing with devtools and testthat

Introduction to R-Shiny

Course description

Create rich, interactive web-apps and dashboards with the popular framework R Shiny.

Develop directly from R, without knowing any web technologies, and make your work accessible also to users unfamiliar with R.

PREREQUISITE
Introduction to data analytics with R

RECOMMENDED
Introduction to R language; R for data scientists

TECHNOLOGY
R

LEVEL
BEGINNER

DURATION
1 DAY

> Customize your user interface
> Dynamic and interactive plots
> User interaction and reactivity
> Case study

Create an API with R and plumber

Course description

In this course you will learn how to transform an R program into an application with a web API with the package plumber.

We will show you how to make your work accessible to any user by exposing it via web services, and get an overview of best practices and common security concerns.

PREREQUISITE
Introduction to Programming in R; Introduction to Data Science in R

RECOMMENDED
R for Data Scientists

> Intro to APIs
> Plumber decorators
> Programmatic use of plumber
> Security concerns and best practices

Customize your Course

Tell us your interests and goals and we will develop a course outline according to your needs.

It can include review and advice on code you have written, addressing concrete problems together, or making use of your own data and use cases.

TECHNOLOGY
ANY

LEVEL
ANY

DURATION
ANY

CONTACT US

We look forward to hearing from you!

> training@mirai-solutions.com

Introduction to SQL

Course description

Learn the fundamentals of relational databases and the SQL language.

The participants will practice everyday data manipulation tasks, by querying, filtering, grouping, transforming and combining data stored in database tables.

PREREQUISITE
None

RECOMMENDED
Basic knowledge of programming

TECHNOLOGY
SQL

LEVEL
BEGINNER

DURATION
2 DAYS

> Introduction to relational databases and SQL dialects
> Write simple queries
> Filter, group and order results
> Use built-in functions
> Combine information from multiple tables

Programming in SQL

Course description

Improve your programming skills by getting familiar with the essentials of relational database routines.

Gain hands-on experience writing your own database functions and stored procedures, and bring SQL to the next level.

PREREQUISITE
Introduction to SQL; Advanced queries in SQL

RECOMMENDED
Basic knowledge of programming

TECHNOLOGY
SQL

LEVEL
INTERMEDIATE

DURATION
1 DAY

> Data modification and data definition
> User-defined functions and stored procedures
> Custom datatypes
> Transaction management
> Views and temporary tables

Advanced Queries in SQL

Course description

Learn how to write complex queries performing advanced data grouping and transformation.

Get familiar with analytic functions in database, and with the fundamentals for optimal design of complex queries.

PREREQUISITE
Introduction to SQL

RECOMMENDED
Basic knowledge of programming

TECHNOLOGY
SQL

LEVEL
INTERMEDIATE

DURATION
1 DAY

> Elaborate grouping and selecting statements
> Best practices for efficient complex queries
> Reshape data, pivoting and unpivoting
> Window functions and analytic functions

Intro to Agile with Scrum

Course description

Become familiar with the fundamentals of Agile development, and put Scrum into practice.

This interactive experience will help you understand the principles, the framework and the benefits of working with Agile.

PREREQUISITE

None

RECOMMENDED

None

TECHNOLOGY
SCRUM

LEVEL
BEGINNER

DURATION
½ DAY

> Agile fundamentals
> Scrum roles and ceremonies
> Interactive experience

Scaled Agile

Course description

Steer your organization to benefit from Agile development at scale.

Coordinate your project portfolio connecting business strategy to execution, and improving predictability and product quality.

PREREQUISITE
None

RECOMMENDED
Practical experience with Agile frameworks

TECHNOLOGY
SAFE / LESS

LEVEL
BEGINNER

DURATION
1 DAY

> Fundamentals of Agile development at scale
> Agile applied to your business case
> Principles of Agile approaches at organisation level

Agile Development

Course description

Apply the fundamentals of Agile development to your work environment.

We will tailor a workshop to your custom needs, planting the seed of an Agile transformation in your working environment.

PREREQUISITE

None

RECOMMENDED

None

TECHNOLOGY
SCRUM/KANBAN

LEVEL
BEGINNER

DURATION
1 DAY

> Fundamentals of Agile development applied to your work environment
> Interactive experience
> Initiate Agile transformation in your organisation

Who we are

Mirai Solutions

> **Swiss**-based consulting company

> **Interdisciplinary** and multi-national team

> Extensive **specialist knowledge** (mathematics, statistics and economics) and **professional experience** in financial services, software engeneering and IT architecture

> Wide teaching expertise in courses, workshops and individual training engaging various audiences

Our Expertise

> Data Analytics

> Modeling

> Software Development

> Training

CONTACT US

We look forward to hearing from you!

> training@mirai-solutions.com

For the full range
of our courses and services
visit our website
or contact us directly.

Mirai Solutions

Mirai Solutions GmbH
Gotthardstrasse 56
CH-8002 Zurich Switzerland
training@mirai-solutions.com
www.mirai-solutions.com